

1 Resulting pending claims for examination:

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- 3 1. A method for generating a dump file, the method comprising:
- 4 a. generating a dump file by gathering at least:
- 5 i. thread information for at least one running thread,
- 6 ii. context information for the thread,
- 7 iii. callstack information for the thread,
- 8 iv. process information for a process in which the thread
- 9 is running, and
- 10 v. information identifying a reason for generating the
- 11 dump file; and
- 12 b. storing the dump file to a storage medium.
- 13
- 14 2. The method as recited in Claim 1, further comprising determining when
- 15 to generate the dump file.
- 16
- 17 3. The method as recited in Claim 1, wherein generating the dump file
- 18 further includes gathering processor information about at least one
- 19 processor.
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- 21
- 22 4. The method as recited in Claim 2, wherein determining when to
- 23 generate the dump file further includes determining that an exception
- 24 has occurred.
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5. The method as recited in Claim 1, wherein the dump file does not include data stored in global initialized memory.
6. The method as recited in Claim 1, wherein the dump file does not include data stored in uninitialized memory.
7. The method as recited in Claim 1, wherein the dump file does not include executable instructions used by a processor to execute a program.
8. The method as recited in Claim 1, wherein the dump file is a kernel minidump file associated with an operating system and the at least one running thread is the single thread which encountered an exception.
9. The method as recited in Claim 8, wherein the callstack information includes kernel stack information.
10. The method as recited in Claim 1, wherein the process information identifies a process that initiated the thread.
11. The method as recited in Claim 1, further comprising:
  - allocating a buffer space in memory during an initialization process, wherein the buffer space is suitable for storing the gathered information; and

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1                   reserving space on the storage medium suitable for writing  
2 the contents of the buffer space.

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4 12. The method as recited in Claim 11, wherein generating the dump file  
5 further includes initially storing the thread information, the context  
6 information, the callstack information, the process information, and the  
7 information identifying the reason for generating the dump file to the  
8 buffer space, and then copying the dump file from the buffer space to  
9 the storage medium as a minidump file.

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11 13. The method as recited in Claim 12, further comprising upon re-  
12 initialization, after having stored the minidump file to the storage  
13 medium, accessing the minidump file on the storage medium and using  
14 at least a portion of the minidump file to further understand an  
15 exception that was at least one reason for generating the minidump file.

16  
17 14. The method as recited in Claim 1, wherein the dump file is a user  
18 minidump file associated with at least one non-operating system  
19 program.

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21 15. The method as recited in Claim 1, wherein generating the dump file  
22 further includes gathering callstack information for all running threads.

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24 16. The method as recited in Claim 15, wherein the callstack information  
25 includes a user callstack.

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2 17. The method as recited in Claim 1, wherein generating the dump file  
3 further includes gathering processor context information for all running  
4 threads.

5  
6 18. The method as recited in Claim 1, wherein generating the dump file  
7 further includes gathering a listing of loaded modules for a faulting  
8 application program.

9  
10 19. The method as recited in Claim 1, wherein the dump file is a directory  
11 indexed file that uses relative virtual addresses (RVAs).

12  
13 20. A computer-readable medium having computer-executable  
14 instructions for causing at least one processor to perform acts  
15 comprising:

16 gathering dump file information including at least thread  
17 information for at least one running thread, context information for the  
18 thread, callstack information for the thread, process information for the  
19 process in which the thread is running, and information identifying a  
20 reason for generating the dump file; and generating a dump file using  
21 the dump file information.

22  
23 21. The computer-readable medium as recited in Claim 20, wherein  
24 generating the dump file further includes storing the dump file to a  
25 storage medium.

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- 2 22. The computer-readable medium as recited in Claim 20, wherein
- 3 gathering the dump file information further includes gathering
- 4 processor information about at least one processor.
- 5
- 6 23. The computer-readable medium as recited in Claim 20, having further
- 7 computer-executable instructions for causing the at least one processor
- 8 to perform acts comprising determining when to generate the dump
- 9 file.
- 10
- 11 24. The computer-readable medium as recited in Claim 20, wherein the
- 12 dump file does not include data stored in global initialized memory.
- 13
- 14 25. The computer-readable medium as recited in Claim 20, wherein the
- 15 dump file does not include data stored in uninitialized memory.
- 16
- 17 26. The computer-readable medium as recited Claim 24 wherein the dump
- 18 file does not include executable instructions used by the at least one
- 19 processor to execute a program.
- 20
- 21 27. The computer-readable medium as recited in Claim 20, wherein the
- 22 dump file is a kernel minidump file associated with an operating
- 23 system and the at least one running thread is the single thread which
- 24 encountered an exception.
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1 28. The computer-readable medium as recited in Claim 20, wherein the  
2 callstack information includes kernel stack information.

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4 29. The computer-readable medium as recited in Claim 20, wherein the  
5 process information identifies a process that initiated the thread.

6  
7 30. The computer-readable medium as recited in Claim 20, further  
8 comprising computer-executable instructions for causing the at least  
9 one processor to perform acts comprising:

10 allocating a buffer space in memory during an initialization process,  
11 wherein the buffer space is suitable for storing the dump file  
12 information; and

13 reserving space on a storage medium drive suitable for writing the  
14 contents of the buffer space.

15  
16 31. The computer-readable medium as recited in Claim 30, wherein  
17 generating the dump file further includes initially storing the thread  
18 information, the context information, the callstack information, the  
19 process information, and the information identifying the reason for  
20 generating the dump file to the buffer space, and then copying the  
21 dump file from the buffer space to the storage medium as a minidump  
22 file.

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1 32. The computer-readable medium as recited in Claim 31, further  
2 comprising computer-executable instructions for causing the at least  
3 one processor to perform acts comprising, upon re-initialization after  
4 having stored the minidump file to the storage medium, accessing the  
5 minidump file on the storage medium and using at least a portion of the  
6 minidump file to further understand an exception that was at least one  
7 reason for generating the minidump file.

8  
9 33. The computer-readable medium as recited in Claim 20, wherein the  
10 dump file is a user minidump file associated with at least one non-  
11 operating system program.

12  
13 34. The computer-readable medium as recited in Claim 20, wherein  
14 gathering the dump file information further includes gathering callstack  
15 information for all running threads.

16  
17 35. The computer-readable medium as recited in Claim 34, wherein the  
18 callstack information includes a user callstack.

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20 36. The computer-readable medium as recited in Claim 20, wherein  
21 gathering the dump file information further includes gathering  
22 processor context information for all running threads.  
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1 37. The computer-readable medium as recited in Claim 20, wherein  
2 gathering the dump file information further includes gathering a listing  
3 of all loaded modules for the faulting application program.

4  
5 38. The computer-readable medium as recited in Claim 20, wherein the  
6 dump file is a directory indexed file that uses relative virtual addresses  
7 (RVAs).

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9  
10 39. An apparatus comprising;  
11 memory;  
12 a data storage drive configured to write data files to at least one data  
13 storage medium; and  
14 at least one processor operatively coupled to the memory and the data  
15 storage drive and configured to:

- 16 a. generate a dump file by gathering in the memory at least:  
17 i. thread information for at least one running thread,  
18 ii. context information for the thread,  
19 iii. callstack information for the thread,  
20 iv. process information for the process in which the thread is  
21 running, and  
22 v. information identifying a reason for generating the dump  
23 file; and  
24 b. store the dump file to the storage medium.  
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- 40. The apparatus as recited in Claim 39, wherein the at least one processor is further configured to determine when to generate the dump file.
- 41. The apparatus as recited in Claim 39, wherein the at least one processor is further configured to gather processor information about the at least one processor and include the processor information in the dump file.
- 42. The apparatus as recited in Claim 40, wherein the at least one processor is further configured to determining when to generate the dump file based on an exception.
- 43. The apparatus as recited in Claim 39, wherein the dump file does not include data stored in global initialized memory.
- 44. The apparatus as recited in Claim 39, wherein the dump file does not include data stored in uninitialized memory.
- 45. The apparatus as recited Claim 39 wherein the dump file does not include executable instructions used by the at least one processor to execute a program.
- 46. The apparatus as recited in Claim 39, wherein the dump file is a kernel minidump file associated with an operating system and the at least one running thread is the single thread which encountered an exception.

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- 1 47. The apparatus as recited in Claim 39, wherein the callstack information  
2 includes kernel stack information.
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- 4 48. The apparatus as recited in Claim 39, wherein the process information  
5 identifies a process that initiated the thread.
- 6
- 7 49. The apparatus as recited in Claim 39, wherein the at least one processor  
8 is further configured to:  
9 allocate a buffer space in the memory during an initialization  
10 process; and  
11 reserve space on the storage medium drive suitable for writing the  
12 contents of the buffer space.
- 13
- 14 50. The apparatus as recited in Claim 49, wherein the at least one processor  
15 is further configured to:  
16 generate the dump file by initially storing the thread information, the  
17 context information, the callstack information, the process information,  
18 and the information identifying the reason for generating the dump file  
19 to the buffer space, and then copying the dump file from the buffer  
20 space to the storage medium as a minidump file.
- 21
- 22 51. The apparatus as recited in Claim 50, wherein the at least one processor  
23 is further configured to, upon re-initialization after having stored the  
24 minidump file to the storage medium, access the minidump file on the  
25 storage medium and use at least a portion of the minidump file to

1 further understand an exception that was at least one reason for  
2 generating the minidump file.

3  
4 52. The apparatus as recited in Claim 39, wherein the dump file is a user  
5 minidump file associated with at least one non-operating system  
6 program.

7  
8 53. The apparatus as recited in Claim 39, wherein the at least one processor  
9 is further configured to gather callstack information for all running  
10 threads as part of the dump file.

11  
12 54. The apparatus as recited in Claim 53, wherein the callstack information  
13 includes a user callstack.

14  
15 55. The apparatus as recited in Claim 39, wherein the at least one processor  
16 is configured to gather processor context information for all running  
17 threads as part of the dump file.

18  
19 56. The apparatus as recited in Claim 39, wherein the at least one processor  
20 is configured to gather a listing of all loaded modules for a faulting  
21 application program as part of the dump file.

22  
23 57. The apparatus as recited in Claim 39, wherein the dump file is a  
24 directory indexed file that uses relative virtual addresses (RVAs).

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1 67. The method as recited in Claim 1, further comprising providing the  
2 dump file to at least one external device.

3  
4 68. The method as recited in Claim 12, upon system re-initialization,  
5 transferring the dump file from the storage medium to at least one  
6 external device.

7  
8 69. The method as recited in Claim 1, wherein generating the dump file  
9 further includes gathering a list of loaded modules.

10  
11 70. The computer-readable medium as recited in Claim 20, having further  
12 computer-executable instructions for causing the at least one processor  
13 to perform acts comprising providing the dump file to at least one  
14 external device.

15  
16 71. The computer-readable medium as recited in Claim 30, having further  
17 computer-executable instructions for causing the at least one processor  
18 to perform acts comprising, upon system re-initialization, transferring  
19 the dump file from the storage medium to at least one external device.

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21 72. The computer-readable medium as recited in Claim 20, wherein  
22 gathering the dump file information further includes gathering a list of  
23 loaded modules.  
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1 73. The apparatus as recited in Claim 39, wherein the at least one processor  
2 is further configured to provide the dump file to at least one external  
3 device.

4  
5 74. The apparatus as recited in Claim 49, wherein the at least one processor  
6 is further configured to, upon system re-initialization, transferring the  
7 dump file from the storage medium to at least one external device.

8  
9 75. The apparatus as recited in Claim 39, wherein the at least one processor  
10 is further configured to gather a list of loaded modules as part of the  
11 dump file.

12  
13 76. An application programming interface (API) method for use between a  
14 first process and a second process operatively configured on at least  
15 one processing unit in a computing device, the API method  
16 comprising:

- 17 a. issuing, by the first process, a write dump file call having a  
18 plurality of call parameters comprising a process handle, a  
19 process identifier, a handle to a file where dump file information  
20 is to be written, and a dump type identifier;  
21 b. receiving, by the second process, the write dump file call and  
22 parsing the call to retrieve the parameters; and  
23 c. issuing, by the first process, a write dump file call  
24 acknowledgment providing a true-false indication.  
25

1 77. An application programming interface (API) method for use between a  
2 first process and a second process operatively configured on at least  
3 one processing unit in a computing device, the API method  
4 comprising:

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- 5 a. issuing, by the first process, a read dump file call having a  
6 plurality of call parameters comprising a header of a dump file  
7 and a data type identifier of data to read from a dump file;
  - 8 b. receiving, by the second process, the read dump file call and  
9 parsing the call to retrieve the parameters; and
  - 10 c. issuing, by the first process, a read dump file call  
11 acknowledgment providing a true-false indication and a plurality  
12 of call return parameters comprising a pointer to a beginning of a  
13 dump stream, and a stream size identifying the size of the dump  
14 stream.

1 Claim amendments shown below:

- 2
- 3 1. (Once Amended) A method for generating a dump file, the method
- 4 comprising:
- 5 a. [determining when to generate a dump file; and
- 6 b.] generating a dump file by gathering at least:
- 7 i. thread information for at least one running thread,
- 8 ii. context information for the thread,
- 9 iii. callstack information for the thread,
- 10 iv. process information for a[the] process in which the
- 11 thread is running, and
- 12 v. information identifying a reason for generating the
- 13 dump file; and
- 14 b. storing the dump file to a storage medium.
- 15
- 16 2. (Once Amended)The method as recited in Claim 2, further comprising
- 17 determining when to generate [wherein generating] the dump file
- 18 [further includes storing the dump file to a storage medium].
- 19
- 20 5. (Once Amended) The method as recited in Claim 1[4], wherein
- 21 the dump file does not [further] include data stored in global initialized
- 22 [any significant portion of a dynamically allocated] memory.
- 23
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- 1 6. (Once Amended) The method as recited in Claim 1[5] wherein  
2 the dump file does not include [any portion of a global initialized or]  
3 data stored in uninitialized memory.
- 4
- 5 7. (Once Amended) The method as recited in Claim 1[5] wherein  
6 the dump file does not include [any portion of the] executable  
7 instructions used by [the] a processor to execute [the] a program.
- 8
- 9 8. (Once Amended) The method as recited in Claim 1, wherein the  
10 dump file is a kernel minidump file associated with an operating system  
11 and the at least one running thread is the single thread which  
12 encountered [the] an exception.
- 13
- 14 9. (Once Amended) The method as recited in Claim 8[1], wherein  
15 the callstack information [is a] includes kernel stack information.
- 16
- 17 10. (Once Amended) The method as recited in Claim 1, wherein the  
18 process information identifies [the] a process that initiated the thread.
- 19
- 20 11. (Once Amended) The method as recited in Claim 1, further  
21 comprising:  
22 [a.]allocating a buffer space in memory during an initialization process,  
23 wherein the buffer space is suitable for storing the gathered  
24 information; and
- 25



1 [b.] reserving space on [a] the storage medium [drive] suitable for  
2 writing the contents of the buffer space.

- 3
- 4 12. (Once Amended) The method as recited in Claim 11, wherein[:
- 5 a.] generating the dump file further includes initially storing the thread
- 6 information, the context information, the callstack information, the
- 7 process information, and the information identifying the reason for
- 8 generating the dump file to the buffer space, and then copying the
- 9 dump file from the buffer space to the storage medium as a
- 10 minidump file[; and
- 11 b. upon system re-initialization, transferring the dump file from the
- 12 storage medium to at least one external computer].
- 13

- 14 13. (Once Amended) The method as recited in Claim 12, further
- 15 comprising upon re-initialization, after having stored the minidump file
- 16 to the storage medium, accessing the minidump file on the storage
- 17 medium and using at least a portion of the minidump file to further
- 18 understand an exception that was at least one reason for generating the
- 19 minidump file.
- 20

- 21 16. (Once Amended) The method as recited in Claim 15[1], wherein
- 22 the callstack information [is] includes a user callstack.
- 23
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1 18. (Once Amended) The method as recited in Claim 1, wherein  
2 generating the dump file further includes gathering a listing of [all]  
3 loaded modules for [the] a faulting application program.

4  
5 20. (Once Amended) A computer-readable medium having  
6 computer-executable instructions for causing at least one processor to  
7 perform[ing steps] acts comprising:

8 [a. determining when to generate a dump file; and

9 b. generating a dump file by] gathering dump file information  
10 including at least[:

11 i.] thread information for at least one running thread,

12 [ii.] context information for the thread,

13 [iii.] callstack information for the thread,

14 [iv.] process information for the process in which the thread  
15 is running, and

16 [v.] information identifying a reason for generating the  
17 dump file; and

18 generating a dump file using the dump file information.

19  
20 22. (Once Amended) The computer-readable medium as recited in Claim  
21 20, wherein [generating] gathering the dump file information further  
22 includes gathering processor information about at least one processor.

23  
24 23. (Once Amended) The computer-readable medium as recited in Claim  
25 20, [wherein] having further computer-executable instructions for

1 causing the at least one processor to perform acts comprising  
2 determining when to generate the dump file [further includes  
3 determining that an exception has occurred].  
4

5 24. (Once Amended) The computer-readable medium as recited in Claim  
6 20[23], wherein the dump file does not [further] include data stored in  
7 global initialized [any significant portion of a dynamically allocated]  
8 memory.  
9

10 25. (Once Amended) The computer-readable medium as recited in Claim  
11 20[24] wherein the dump file does not include [any portion of a global  
12 initialized or] data stored in uninitialized memory.  
13

14 26. (Once Amended) The computer-readable medium as recited Claim 24  
15 wherein the dump file does not include [any portion of the] executable  
16 instructions used by the at least one processor to execute [the] a  
17 program.  
18

19 27. (Once Amended) The computer-readable medium as recited in Claim  
20 20, wherein the dump file is a kernel minidump file associated with an  
21 operating system and the at least one running thread is the single thread  
22 which encountered [the] an exception.  
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1 28. (Once Amended) The computer-readable medium as recited in Claim  
2 20, wherein the callstack information [is a] includes kernel stack  
3 information.

4  
5 29. (Once Amended) The computer-readable medium as recited in Claim  
6 20, wherein the process information identifies [the] a process that  
7 initiated the thread.

8  
9 30. (Once Amended) The computer-readable medium as recited in Claim  
10 20, further comprising computer-executable instructions for causing the  
11 at least one processor to perform[ing steps of] acts comprising:

12 allocating a buffer space in memory during an initialization process,  
13 wherein the buffer space is suitable for storing the dump file information; and

14 reserving space on a storage medium drive suitable for writing the  
15 contents of the buffer space.

16  
17 31. (Once Amended) The computer-readable medium as recited in Claim  
18 30, wherein generating the dump file further includes initially storing  
19 the thread information, the context information, the callstack  
20 information, the process information, and the information identifying  
21 the reason for generating the dump file to the buffer space, and then  
22 copying the dump file from the buffer space to the storage medium as a  
23 minidump file; and

24 upon system re-initialization, transferring the dump file from the  
25 storage medium to at least one external different computer].

1  
2 32. (Once Amended) The computer-readable medium as recited in Claim  
3 31, further comprising computer-executable instructions for causing the  
4 at least one processor to perform[ing steps of] acts comprising, upon  
5 re-initialization after having stored the minidump file to the storage  
6 medium, accessing the minidump file on the storage medium and using  
7 at least a portion of the minidump file to further understand an  
8 exception that was at least one reason for generating the minidump file.  
9

10 34. (Once Amended) The computer-readable medium as recited in Claim  
11 20, wherein [generating the dump file] gathering the dump file  
12 information further includes gathering callstack information for all  
13 running threads.  
14

15 35. (Once Amended) The computer-readable medium as recited in Claim  
16 34[20], wherein the callstack information [is] includes a user callstack.  
17

18 36. (Once Amended) The computer-readable medium as recited in Claim  
19 20, wherein [generating the dump file] gathering the dump file  
20 information further includes gathering processor context information  
21 for all running threads.  
22

23 37. (Once Amended) The computer-readable medium as recited in Claim  
24 20, wherein [generating the dump file] gathering the dump file  
25

1 information further includes gathering a listing of all loaded modules  
2 for the faulting application program.

3  
4 39. (Once Amended) An [arrangement] apparatus comprising;  
5 memory[,];  
6 a data storage drive configured to write data files to at least one data  
7 storage medium[,]; and  
8 at least one processor operatively coupled to the memory and the data  
9 storage drive and configured to:

10 a. [determine when to generate a dump file; and

11 b.] generate a dump file by gathering in the memory at least:

12 i. thread information for at least one running thread,

13 ii. context information for the thread,

14 iii. callstack information for the thread,

15 iv. process information for the process in which the thread is  
16 running, and

17 v. information identifying a reason for generating the dump  
18 file; and

19 b. store the dump file to the storage medium.

20  
21 40. (Once Amended) The [arrangement] apparatus as recited in Claim  
22 39, wherein the at least one processor is further configured to  
23 determine when to generate[ing] the dump file [further includes storing  
24 the dump file to a storage medium].  
25

1 41. (Once Amended) The [arrangement] apparatus as recited in Claim  
2 39, wherein the at least one processor is further configured to  
3 [generating the dump file further includes] gather[ing] processor  
4 information about the at least one processor and include the processor  
5 information in the dump file.

6  
7 42. (Once Amended) The [arrangement] apparatus as recited in Claim  
8 40[39], wherein the at least one processor is further configured to  
9 determining when to generate the dump file [further includes  
10 determining that] based on an exception [has occurred].

11  
12 43. (Once Amended) The [arrangement] apparatus as recited in Claim  
13 39[43], wherein the dump file does not [further] include data stored in  
14 global initialized [any significant portion of a dynamically allocated]  
15 memory.

16  
17 44. (Once Amended) The [arrangement] apparatus as recited in Claim  
18 39[43] wherein the dump file does not include [any portion of a global  
19 initialized or] data stored in uninitialized memory.

20  
21 45. (Once Amended) The [arrangement] apparatus as recited Claim  
22 39[43] wherein the dump file does not include [any portion of the]  
23 executable instructions used by the at least one processor to execute  
24 [the] a program.  
25

1 46. (Once Amended) The [arrangement] apparatus as recited in Claim  
2 39, wherein the dump file is a kernel minidump file associated with an  
3 operating system and the at least one running thread is the single thread  
4 which encountered [the] an exception.

5  
6 47. (Once Amended) The [arrangement] apparatus as recited in Claim  
7 39, wherein the callstack information [is a] includes kernel stack  
8 information.

9  
10 48. (Once Amended) The [arrangement] apparatus as recited in Claim  
11 39, wherein the process information identifies [the] a process that  
12 initiated the thread.

13  
14 49. (Once Amended) The [arrangement] apparatus as recited in Claim  
15 39, wherein the at least one processor is further configured to [further  
16 comprising computer-executable instructions for performing steps of]:  
17 allocate[ing] a buffer space in the memory during an initialization  
18 process; and  
19 reserve[ing] space on [a] the storage medium drive suitable for  
20 writing the contents of the buffer space.

21  
22 50. (Once Amended) The [arrangement] apparatus as recited in Claim  
23 49, wherein the at least one processor is further configured to:  
24 generate[ing] the dump file [further includes] by initially storing the  
25 thread information, the context information, the callstack information,



1 the process information, and the information identifying the reason for  
2 generating the dump file to the buffer space, and then copying the  
3 dump file from the buffer space to the storage medium as a minidump  
4 file[; and

5 upon system re-initialization, transferring the dump file from the  
6 storage medium to at least one external computer].

7  
8 51. (Once Amended) The [arrangement] apparatus as recited in Claim  
9 50, wherein the at least one processor is further [comprising computer-  
10 executable instructions for performing steps of] configured to, upon re-  
11 initialization after having stored the minidump file to the storage  
12 medium, access[ing] the minidump file on the storage medium and  
13 use[ing] at least a portion of the minidump file to further understand an  
14 exception that was at least one reason for generating the minidump file.

15  
16 52. (Once Amended) The [arrangement] apparatus as recited in Claim  
17 39, wherein the dump file is a user minidump file associated with at  
18 least one non-operating system program.

19  
20 53. (Once Amended) The [arrangement] apparatus as recited in Claim  
21 39, wherein the at least one processor is further configured to  
22 [generating the dump file further includes] gather[ing] callstack  
23 information for all running threads as part of the dump file.

1 54. (Once Amended) The [arrangement] apparatus as recited in Claim  
2 53[39], wherein the callstack information [is] includes a user callstack.

3  
4 55. (Once Amended) The [arrangement] apparatus as recited in Claim  
5 39, wherein the at least one processor is configured to [generating the  
6 dump file further includes] gather[ing] processor context information  
7 for all running threads as part of the dump file.

8  
9 56. (Once Amended) The [arrangement] apparatus as recited in Claim  
10 39, wherein the at least one processor is configured to [generating the  
11 dump file further includes] gather[ing] a listing of all loaded modules  
12 for [the] a faulting application program as part of the dump file.

13  
14 57. (Once Amended) The [arrangement] apparatus as recited in Claim  
15 39, wherein the dump file is a directory indexed file that uses relative  
16 virtual addresses (RVAs).

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18 --67. The method as recited in Claim 1, further comprising providing the  
19 dump file to at least one external device.

20  
21 68. The method as recited in Claim 12, upon system re-initialization,  
22 transferring the dump file from the storage medium to at least one  
23 external device.  
24  
25

1 69. The method as recited in Claim 1, wherein generating the dump file  
2 further includes gathering a list of loaded modules.

3  
4 70. The computer-readable medium as recited in Claim 20, having further  
5 computer-executable instructions for causing the at least one processor  
6 to perform acts comprising providing the dump file to at least one  
7 external device.

8  
9 71. The computer-readable medium as recited in Claim 30, having further  
10 computer-executable instructions for causing the at least one processor  
11 to perform acts comprising, upon system re-initialization, transferring  
12 the dump file from the storage medium to at least one external device.

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14 72. The computer-readable medium as recited in Claim 20, wherein  
15 gathering the dump file information further includes gathering a list of  
16 loaded modules.

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18 73. The apparatus as recited in Claim 39, wherein the at least one processor  
19 is further configured to provide the dump file to at least one external  
20 device.

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22 74. The apparatus as recited in Claim 49, wherein the at least one processor  
23 is further configured to, upon system re-initialization, transferring the  
24 dump file from the storage medium to at least one external device.  
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1       75.     The apparatus as recited in Claim 39, wherein the at least one processor  
2             is further configured to gather a list of loaded modules as part of the  
3             dump file.

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5       76.     An application programming interface (API) method for use between a  
6             first process and a second process operatively configured on at least  
7             one processing unit in a computing device, the API method  
8             comprising:

9             a. issuing, by the first process, a write dump file call having a  
10             plurality of call parameters comprising a process handle, a  
11             process identifier, a handle to a file where dump file information  
12             is to be written, and a dump type identifier;

13            b. receiving, by the second process, the write dump file call and  
14            parsing the call to retrieve the parameters; and

15            c. issuing, by the first process, a write dump file call  
16            acknowledgment providing a true-false indication.

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18       77.     An application programming interface (API) method for use between a  
19             first process and a second process operatively configured on at least  
20             one processing unit in a computing device, the API method  
21             comprising:

22             a. issuing, by the first process, a read dump file call having a  
23             plurality of call parameters comprising a header of a dump file  
24             and a data type identifier of data to read from a dump file;  
25

- 1 b. receiving, by the second process, the read dump file call and  
2 parsing the call to retrieve the parameters; and  
3 c. issuing, by the first process, a read dump file call  
4 acknowledgment providing a true-false indication and a plurality  
5 of call return parameters comprising a pointer to a beginning of a  
6 dump stream, and a stream size identifying the size of the dump  
7 stream. --  
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